WHAT IS CLAIMED IS:

1. A method for selecting well construction equipment, comprising:

a. establishing one or more operational objectives in the construction of a wellbore segment,

b. determining limiting parameters of the wellbore segment to be constructed,

c. determining a selected first working parameter of a plurality of first components of a first type of equipment available to construct the wellbore segment,

d. determining a comparison factor for each of two or more of the first components, using the selected working parameter of the first components, as used in the construction of the wellbore segment,

e. comparing the determined comparison factors of the first components, and

f. selecting a first component from said plurality of first components, using the comparison of comparison factors, to best meet said operational objectives in the construction of the wellbore segment.

2. A method as defined in claim 1, further comprising:

a. determining a second working parameter for two or more second components selected from a plurality of available second components of a second type of equipment available to construct the wellbore segment,

b. determining a comparison factor for each of said two or more second components using the second working parameter,

c. comparing comparison factors of said second components, and

d. selecting first and second components, to best meet the operational

objectives, based on comparing said comparison factors.

3. A method as defined in claim 2, further comprising:

a. comparing working parameters of assemblies of said first and second components using the comparison factor established for said first and second components, and

b. selecting an assembly of said first and second components for constructing the wellbore segment using a comparison of comparison factors for assemblies of said first and second components.

4. A method as defined in claim 3, further comprising:

a. comparing comparison factors of three or more assemblies, each assembly having components of two or more types of equipment, using comparison factors established for each type of equipment in said assembly, and

b. selecting an assembly of said three or more types of equipment for constructing the wellbore segment using comparison factors established for said three or more assemblies.

5. A method as defined in claim 1 wherein the operational objective is to minimize the possibility of fatigue failure of a drill stem in the construction of a wellbore segment.

6. A method as defined in claim 1 wherein the operational objective is to minimize fatigue-caused damage in a drill stem being moved in a curved wellbore section.

7. A method as defined in claim 6 wherein the limiting parameter of the wellbore section is wellbore curvature.

8. A method as defined in claim 7 wherein said first components comprises a drillpipe and said limiting parameters include axial tension load, stress amplitude

(bending stress) and total stress in the pipe.

9. A method as defined in claim 8 wherein said comparison factor for said first components is determined by calculating the fatigue life of the drill pipe and converting the fatigue life into a Curvature Index.

10. A method as defined in claim 12 wherein said comparison factors are reported in graphs of tension load, wellbore curvature, and Curvature Index for various pipe sizes, weights, grades, and classes.

11. A method as defined in claim 10 wherein said comparison of comparison factors is performed by using said graphs to compare fatigue damage potential of different combinations of drill pipe types and sizes, wellbore curvature, and tension load.

12. A method as defined in claim 1 wherein the objective is to minimize the fatigue induced failure of a bottomhole assembly.

13. A method as defined in claim 12 wherein the first components are components of a bottomhole assembly.

14. A method as defined in claim 13 wherein said comparison factor is obtained by determining a Stability Index based on the maximum predicted stress exerted on the bottomhole assembly

15. A method as defined in claim 14 wherein the Stability Index is a numerical index ranging between an infinite life to the shortest life for selected bottomhole assembly components.

16. A method as defined in claim 1 wherein said limiting wellbore condition is a curvature of the wellbore and said first components are downhole tools.

17. A method as defined in claim 16 wherein said comparison factor comprises a

bending tolerance rating determined for various maximum stress ranges of the bottomhole tools as a function of material yield strength.

18. A method as defined in claim 17 wherein the bending tolerance rating for said bottomhole tools is reported in a bending tolerance rating table.

19. A method as defined in claim 18 wherein said bending tolerance rating table is evaluated to perform said comparison of comparison factors.

20. A method of designing a drill string comprising a plurality of drill string components, comprising:

(a) defining at least one fatigue index quantifying parameters known to correlate with the fatigue characteristics of a drill string component;

(b) identifying at least two alternative candidate drill string components;

(c) computing said fatigue index values for said at least two alternative candidate drill string components;

(d) comparing said computed fatigue index values;

(d) selecting one of said at least two alternative candidate drill string components for inclusion in said drill string based on said comparison of computed fatigue index values.

21. A method in accordance with claim 20, wherein said at least one fatigue index comprises a Curvature Index which correlates to a prediction of a drill string component's fatigue life when operated in a curved borehole.

22. A method in accordance with claim 20, wherein said at least one fatigue index comprises a Stability Index which correlates to a prediction of a drill string component's fatigue life when simultaneously subjected to buckling and rotation.

23. A method in accordance with claim 20, further comprising:

(e) calculating the maximum stress exerted on a drill string component under at least one predetermined set of conditions; and

(f) assigning a Bending Tolerance Rating to said drill string component based on the ratio between said calculated maximum stress and said drill string component's material yield strength.